

AMENDMENTS TO THE SPECIFICATION

Please amend the Specification at paragraph [0019] as follows:

[0019] A summary of main process after the initialization process is shown in FIG. 2. The data processing apparatus 12, first, reads a component identifier (component number) of the highest importance from the important component selection apparatus 13. Given that the component number is i, then, the data processing apparatus 12 reads a component i from the data storage apparatus 11 and performs data processing for the component i. For a specific data processing, an appropriate program can be made as software for the data processing apparatus 12 according to the application purpose. In this process, not only the component i but also any other one or more components, for example, a component j, can be updated. For a component to be updated, importance of that component is calculated. After this, the importance and component number(s) of a component(s) to be updated are sent out to the important component selection apparatus 13 and an updated value(s) of the component(s) is/are sent out to the data storage apparatus 11. When a series of these processes is completed, immediately, the most important component is read from the important component selection apparatus 13 and the same processes are repeated. The data processing apparatus 12 continuously performs this ~~loop~~ loop process until a termination condition which is set by the program is reached.

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importance of that component is calculated. After this, the importance and component number(s) of a component(s) to be updated are sent out to the important component selection apparatus 13 and an updated value(s) of the component(s) is/are sent out to the data storage apparatus 11. When a series of these processes is completed, immediately, the most important component is read from the important component selection apparatus 13 and the same processes are repeated. The data processing apparatus 12 continuously performs this loop process until a termination condition which is set by the program is reached.

Please amend the Specification at paragraph [0033] as follows:

[0033] In the case of PUSH, when a condition is such that a value P_{in} of the importance of input data D_{in} is ~~greater-less~~ than or equal to a value $P(k)$ of the importance of data $R(k)$ in the register k , i.e., $P(k) \geq P_{in}$, $R(k)$ does not need to be changed and thus a selector/arithmetic unit output is $R(k)$. This condition is indicated only by a comparator output $G(k)=0$ and does not depend on other comparator outputs and thus $G(k-1) = *$, $G(k+1) = *$, $S(k) = *$, and $LS(k) = *$. Conditions such that $P(k-1) \geq P_{in} > P(k)$ and $k \leq K_s$ are conditions for an insertion location of D_{in} . Specifically, they are indicated by $G(k-1)=0$, $G(k)=1$, $G(k+1) = *$, $S(k) = *$, and $LS(k)=0$ and a selector/arithmetic unit output to the k is D_{in} . Conditions such that $P_{in} > P(k-1) \geq P(k)$ and $k \leq K_s$ indicate that $R(k)$ has lower importance than D_{in} and $P(k) \geq P(K_s)$, and thus, $R(k)$ should be moved down one position by the insertion of D_{in} . That is, under conditions that $G(k-1)=1$, $G(k)=1$, $G(k+1) = *$, $S(k) = *$, and $LS(k)=0$, $R(k-1)$ which is one position above is assigned to $R(k)$, and thus, the selector/arithmetic processing output is $R(k-1)$. In the case in which $k > K_s$, even if D_{in} is inserted, $R(K_s)$ is deleted and thus it indicates a condition that the position does not change. In the case also in which D_{in} is not inserted, the position does not change and thus this does not depend on a value of importance, and under conditions that $G(k-1) = *$, $G(k) = *$, $G(k+1) = *$, $S(k) = *$, and $LS(k)=1$, a selector/arithmetic unit output is $R(k)$.

[0033] In the case of PUSH, when a condition is such that a value P_{in} of the importance of input data D_{in} is less than or equal to a value $P(k)$ of the importance of data $R(k)$ in the register k , i.e., $P(k) \geq P_{in}$, $R(k)$ does not need to be changed and thus a selector/arithmetic unit output is $R(k)$. This condition is indicated only by a comparator output $G(k)=0$ and does not depend on other comparator outputs and thus $G(k-1) = *$, $G(k+1) = *$, $S(k) = *$, and $LS(k) = *$. Conditions such that $P(k-1) \geq P_{in} > P(k)$ and $k \leq K_s$ are conditions for an insertion location of D_{in} . Specifically, they are indicated by $G(k-1)=0$, $G(k)=1$, $G(k+1) = *$, $S(k) = *$, and $LS(k)=0$ and a selector/arithmetic unit output to the k is D_{in} . Conditions such that $P_{in} > P(k-1) \geq P(k)$ and $k \leq K_s$ indicate that $R(k)$ has lower importance than D_{in} and $P(k) \geq P(K_s)$, and thus, $R(k)$ should be moved down one position by the insertion of D_{in} . That is, under conditions that $G(k-1)=1$, $G(k)=1$, $G(k+1) = *$, $S(k) = *$, and $LS(k)=0$, $R(k-1)$ which is one position above is assigned to $R(k)$, and thus, the selector/arithmetic processing output is $R(k-1)$. In the case in which $k > K_s$, even if D_{in} is inserted, $R(K_s)$ is deleted and thus it indicates a condition that the position does not change. In the case also in which D_{in} is not inserted, the position does not change and thus this does not depend on a value of importance, and under conditions that $G(k-1) = *$, $G(k) = *$, $G(k+1) = *$, $S(k) = *$, and $LS(k)=1$, a selector/arithmetic unit output is $R(k)$.